

Notice of Allowability

Application No.

09/922,666

Examiner

Delma R. Flores Ruiz

Applicant(s)

ABE, HIROAKI

Art Unit

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 12/04/2003.
2. ☒ The allowed claim(s) is/are 1-11.
3. ☒ The drawings filed on 23 October 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____



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SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800

DETAILED ACTION

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Ronald P. Kananen on February 25, 2004.

The application has been amended as follows:

Cancel claims 12 – 15.

Allowable Subject Matter

The following is an examiner's statement of reasons for allowance: claim ** has been allowed over the prior art because they fail to teach a laser diode comprising: a **first clad layer of a first conductivity type formed on a substrate; an active layer**

formed at an upper layer of said first clad layer; a second clad layer of a second conductivity type formed at an upper layer of said active layer; a third clad layer of the second conductivity type formed at an upper layer of said second clad layer in a current injection stripe region; third clad a contact layer formed at an upper layer of said layer; and an electrode formed so as to connect said second clad layer in regions other than said current injection stripe region and to connect said contact layer; whereby when a first current is injected from said electrode via said contact layer by applying a predetermined voltage to said electrode and laser light emitted from a laser light oscillation region near said active layer, a second current which is smaller than said first current is injected in regions other than said current injection stripe region from said electrode via said second clad layer and currents at ends of said laser light oscillation region are controlled for self pulsation.

The following is an examiner's statement of reasons for allowance: claim 10 has been allowed over the prior art because they fail to teach a semiconductor light emitting device diode elements, wherein at comprising a plurality of laser least one of said laser diode elements comprises: a first clad layer of a first formed on a substrate; conductivity type an active layer formed at an upper layer of said first clad layer; a second clad layer of a second conductivity type formed at an upper layer of

said active layer; a third clad layer of the second conductivity type formed at an upper layer of said second clad layer in a current injection stripe region; a contact layer formed at an upper layer of said third clad layer; and an electrode formed so as to connect said second clad layer in regions other than said current injection stripe region and to connect said contact layer; and whereby said at least one of said laser diode elements is a laser diode wherein, when a first current is injected from said electrode via said contact layer by applying a predetermined voltage to said electrode and a laser light is emitted from a laser light oscillation region near said active layer, a second current which is smaller than said first current is injected in regions other than said current injection stripe region from said electrode via said second clad layer and currents at ends region are controlled for of said laser light oscillation self pulsation .

Claims 2 – 9 and 11 has been found allowable due to their dependency on claims 1 and 10.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reason for Allowance".

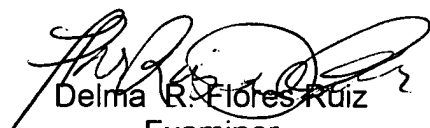
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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Delma R. Flores Ruiz whose telephone number is (571) 272-1940. The examiner can normally be reached on M - F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on (571) -272-1941. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Delma R. Flores Ruiz
Examiner
Art Unit 2828


Paul Ip
Supervisor Patent Examiner
Art Unit 2828

DRFR/PI
February 25, 2004